SOLUTIA
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July 15, 2004

Mr. Kenneth Bardo
U.S. EPA Region V
Corrective Action Section
Enforcement Compliance Branch
77 West Jackson Boulevard DE-J9
Chicago, IL 60604-3507

Re: Solutia Inc. – W. G. Krummrich RCRA Corrective Action Quarterly Report

Dear Mr. Bardo:

This progress report is being submitted to you pursuant to Section VI 6b of the May 3, 2000 Administrative Order on Consent ("AOC") between Solutia Inc. (Solutia) and the United States Environmental Protection Agency (USEPA, or Agency). It summarizes the project activities through June 30, 2004.

Work Performed in this Reporting Period

CA725 Current Human Exposure Under Control Environmental Indicator Determination

A report summarizing the results of the indoor air and soil vapor investigations performed as part of the CA725 Human Health Environmental Indicator was submitted to the Agency on December 11, 2003. At a meeting on March 18, 2004, the EPA noted that the information on exposure pathways submitted by Solutia was insufficient to establish that as of January 1, 2004, there were no complete pathways between surface water and sediment contamination of the Mississippi River (in the vicinity of the interim groundwater remedy). In the absence of such information, the Agency could not support a conclusion that human receptors would not be subject to exposures from this pathway under current conditions. The Agency requested that Solutia provide any additional information that would support such a conclusion. The information was submitted on April 19, 2004 and, based on that submission, EPA concluded that the current conditions at the W.G. Krummrich facility did not present any unacceptable human health exposures and that the facility satisfied the requirements of the CA725 Human Health Environmental Indicator. A completed CA725 Environmental Indicator report was signed by EPA on May 26, 2004.

CA750 Current Groundwater Migration Under Control Environmental Indicator Determination

In a letter dated March 9, 2004, the EPA informed Solutia that a dispute existed pursuant to Section X.2 of the AOC. The Notice of Dispute alleged that "Solutia's effort to pump groundwater in the vicinity of the Mississippi River area has not been shown to be effective in stabilizing the Solutia W.G. Krummrich facility groundwater plume."

In an attempt to informally resolve the dispute under the dispute resolution provisions of the AOC, EPA and Solutia met on March 17 and 18, 2004 to discuss the allegations. Subsequent to that meeting, an Addendum to the CA750 Groundwater Migration Under Control Environmental Indicator Report was submitted to the Agency by Solutia on April 19, 2004. Using 9 lines of evidence, the Addendum concluded that groundwater discharging to the Mississippi River downgradient of Site R had been under control from October 22, 2003 onward.

U.S. EPA reviewed that submission and then sent Solutia a Notice of Formal Dispute on May 18, 2004, pursuant to Section X.3 of the AOC. The Notice alleged that that the groundwater discharge from the W.G. Krummrich Plant was not controlled for 152 days during the period between July 16, 2003 and February 11, 2004. However, the agency did conclude that the groundwater migration was under control as of April 19, 2004 and issued a completed CA750 Environmental Indicator Determination to that effect on May 26, 2004.

On June 21, 2004 Solutia submitted a report to EPA titled "Groundwater Migration Impact and Control Assessment" and met on the same day with EPA in an attempt to resolve the specifics of the dispute. That report responded to each of the specific allegations of non-compliance contained in the Agency's letter of May 18, 2004. It concluded that the Krummrich facility does not adversely affect the Mississippi River and, as such, groundwater control is not required under the terms of the AOC. Moreover, the report concluded that groundwater migration downgradient of Site R was under control on all but two days that between October 22, 2003 and February 11, 2004, a period during which the Agency alleged that the discharge was not under control for 54 days. These findings are currently being reviewed by the Agency.

Operation of the groundwater extraction and disposal system at Sauget Area 2 Site R continued during the reporting period. Pumping rates are adjusted on the basis of a river stage-groundwater discharge relationship developed from numerical modeling performed for the Sauget Area 2 Interim Groundwater Remedy Focused Feasibility Study and incorporated in the Sauget Area 2 Interim Groundwater Remedy Record of Decision (ROD) by the Agency. The relationship is based on the absence of any groundwater barrier and will be used until the cutoff wall is complete. At that time a new relationship, based on the existence of a groundwater barrier and also included in the ROD, will be used to adjust flow rates in response to changes in river stage.

Groundwater elevation data and potentiometric maps are submitted to the Agency on a weekly basis. These data demonstrate that groundwater discharge to the river downgradient of Site R is under control.

Dense Non-Aqueous Phase Liquid (DNAPL) Characterization Study

A site-wide DNAPL investigation commenced at the end of the first quarter of 2004 after the DNAPL Characterization and Site Corrective Measures Study was submitted to USEPA on February 18, 2004. The first task of the investigation consisted of surveying 89 existing wells for any evidence of NAPL. That task started on March 16, 2004 was completed on March 25, 2004. Not all of the existing wells include in the Work Plan could be found. Of the 73 wells found and surveyed, NAPL was detected at two locations. DNAPL was found in the area of the January 2001 Chlorobenzene Process Area (CPA) spill with 8-inches in piezometers PZ-1, 7 and 9, 0.1 inch in recovery well RW-1 and droplets in recovery well RW-2. NAPL droplets were observed in water removed from well GM-13 at the southern end of the CPA.

Approximately 150 to 200 ml of DNAPL were recovered from the CPA wells on March 24, 2004. The principal constituents were reported to be:

Chlorobenzene:	28%
Tetrachloroethene:	23%
1,4-Dichlorobenzene:	2.7%
1,2-Dichlorobenzene:	1.3%

Various PAHs were reported at concentrations ranging from 0.1% to 0.4% or lower. 4,4,4-DDT was reported at 0.62 mg/kg, and pentachlorophenol was reported at 65 mg/kg. Trace levels of several metals were reported. No PCBs were detected in the sample.

A 2-D geophysical survey was conducted at the plant during the period March 30 to April 12, 2004 to define bedrock topography. Data from this survey, combined with depth to rock information from existing borings on and adjacent to the plant, were used to prepare a bedrock topography map which was presented to the Agency on May 25, 2004. An updated bedrock topography map was submitted to the Agency on June 1, 2004. During a June 3, 2004 meeting, Solutia and USEPA selected the locations of the remaining three DNAPL soil borings/piezometers which were to be installed in three bedrock topographic lows identified by the geophysical survey. One DNAPL soil boring piezometer was located downslope of the Chlorobenzene Process Area, another was located downslope of the Chlorobenzene Storage Area and the third was located on the western boundary of Lot F.

During the period from April 12 to May 14, 2004, soil sampling and piezometer installation were completed at a total of nine locations: one in Lot F, three in the Chlorobenzene Storage Area, four in the Chlorobenzene Process Area and one in the

eastern tip of the plant process area. These wells were surveyed for NAPL and none was detected.

On June 8, 2004, installation of the three bedrock topographic low DNAPL soil borings/piezometers was started and work was completed, including NAPL surveying by June 23, 2004. No DNAPL was detected during this survey.

Thermal treatability testing (boiling point analysis) was completed on June 25, 2004 using DNAPL recovered from the CPA. This test indicated that approximately 50% of the DNAPL had a boiling point of 500 degrees Fahrenheit or greater. Surfactant treatability and chemical oxidation treatability tests are underway. Only enough DNAPL is available to perform the surfactant treatability tests. A stockpiled soil sample will be used to perform the chemical oxidation treatability test. Additional testing will be done to determine the DNAPL dissolution rate (mass transfer from the aquifer matrix to groundwater).

A groundwater measurements program was conducted June 24-26, 2004. This supplemental program involved selected monitoring wells screened in the shallow, middle, and deep hydrogeologic units of the alluvial aquifer at the plant, at Lot F, and downgradient of Lot F. Field instrumentation was used to take measurements of redox potential and dissolved oxygen. In addition, test kits were used to confirm dissolved oxygen levels. Oxygen levels were below 1 ppm at most of the wells included in this program, indicating anaerobic conditions. This information, along with previous groundwater sampling data from 2002 and 2003, will be incorporated into the CMS evaluation of in-situ bioremediation of affected groundwater.

Corrective Measures Study

Validation of the analytical data from the second round of soil sampling for the Corrective Measures Study (CMS), which was conducted between October and December 2003, was completed in May 2004. The only remaining site investigation needed to support the CMS is the DNAPL Characterization Study, which was started on March 16, 2004 after USEPA commented on the February 18, 2004 Work Plan.

On May 11, 2004, USEPA approved a schedule extension from June 1, 2004 to August 27, 2004 for submission of the CMS. Solutia requested a schedule extension to allow results from the DNAPL Characterization Study to be incorporated into the CMS. Preparation of the Corrective Measures Study Report started on June 9, 2004 with a project startup meeting attended by project team members from Solutia, Groundwater Services, Inc. and URS Corporation. The field work portion of the DNAPL Characterization Study was completed on June 23. 2004. Chemical analysis of soil samples and DNAPL treatability studies are underway.

Solutia met with USEPA, at the Agency's request, on June 29, 2004 to answer the Agency's questions on Solutia's plans for the CMS Report. Solutia answered questions on site background information, prior interim measures, site investigation,

human health risk assessment and potential corrective measures. In response to the questions on site investigation, Solutia explained that a Data Report, which would include the soil, groundwater and DNAPL data collected to support the CMS, would be submitted concurrently with the CMS Report. In response to the Agency's questions, air sampling results will also be included in the Data Report. In terms of Human Health Risk Assessment, Solutia explained that TACO screening levels would be used in the CMS to identify areas of the site where remedial action was needed to control exposures. Potential corrective measures that will be evaluated in the CMS include institutional controls, monitoring, permeable covers, impermeable covers, aggressive pump and treat and institutional controls, monitoring, in-situ DNAPL treatment in source areas and in-situ bioremediation, physical barriers and hydraulic barriers for groundwater migration control.

Project Administration

There were no changes in the project administration during the quarter.

Problems Encountered

No technical problems were encountered during the reporting period.

Work Scheduled for Next Reporting Period

The following activities will begin in the third quarter of 2004:

- Completion of the DNAPL Characterization Study by August 27, 2004;
- Completion of the CMS Data Report by August 27, 2004;
- Submission of the CMS report by August 27, 2004; and
- Submission of weekly groundwater elevation data from Sauget Area 2 Site R Groundwater Migration Control System.

Sincerely,

Bruce S. Yare for

Steven D. Smith
Project Manager

cc: Nabil Fayoumi, USEPA
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